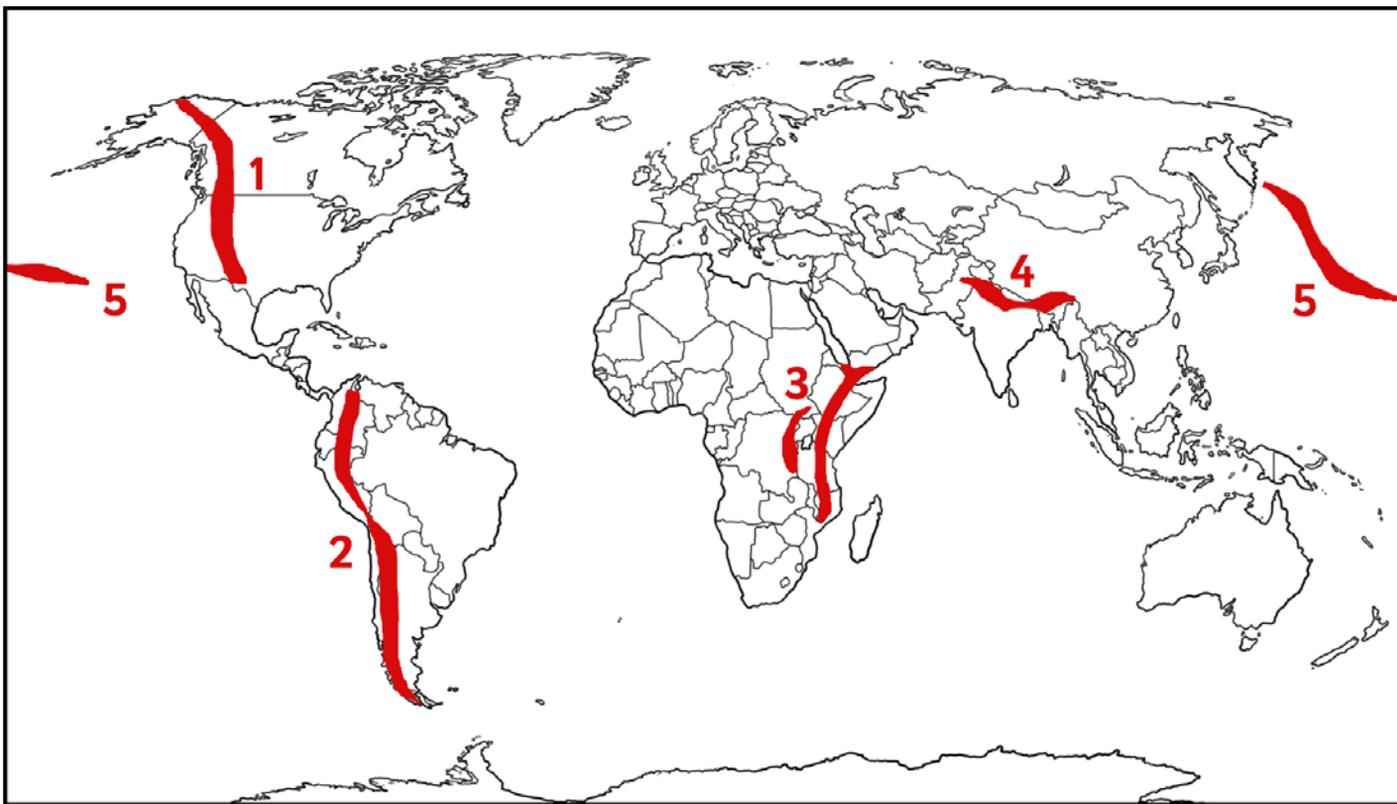


A Range of Ranges – Teacher Version

Mountain ranges create some of the most spectacular scenery the earth has to offer. Breathtaking drops, sheer rock faces and snow-capped peaks are just some of the dramatic features of these spiny streaks on our planet's surface. They come in all sizes and each mountain range is unique in terms of the flora and fauna it supports, the views it offers and the stories it has created.

Several of the world's most famous or most interesting mountain ranges have been marked on the map below. The numbers correspond with the boxes which follow; select a mountain range and then read on to discover all sorts of fascinating facts about it!



M: Explain and evaluate the effect of the pun used in the title. The pun is on the word 'range'. In its first use it means 'a set of similar things' but in the second it means 'a set or sets of mountains'. The pun is effective because it shows wit and brings humour, both of which are incentives to keep reading.

D: What are the 'spiny streaks' on our planet's surface and why is this a good description? Mountain ranges. This is a good description because it conveys the jagged, spiky nature of a line of mountains, and also conveys that they are in a long line (streak).

D: Why do you think the author has chosen to mark the extent of each mountain range on the map? To help people better visualise the size of the ranges. To make it clear exactly where the ranges start and stop.

S: What is 'flora and fauna'? Plant life and animal life.

E: Give a synonym for the word 'correspond' in the last sentence of the introduction. Match, link, fit with.

1. The Rocky Mountains (the 'Rockies')

Stretching an impressive 4800km from Alaska through the west side of Canada and down into the mainland of the United States of America, the Rockies are one of the most well-known mountain ranges in the world. They were formed 80 – 55 million years ago during a large movement of tectonic plates. Tectonic plates are enormous sections of the earth's crust which move together and apart, causing earthquakes and forming huge valleys and mountains. The Rockies were formed when several tectonic plates to the west of North America slowly began to slide underneath the North American Plate. This movement forced huge pieces of rock upwards, forming the Rocky Mountains.

The Rockies are home to some of the most spectacular and rare wildlife on the planet. Herds of giant moose populate the northern sections of the range, alongside terrifying grizzly bears and wolves.

Did you know?

The largest moose ever recorded was found in Canada's Yukon territory, through which the Rockies run. The male moose stood an incredible 2.34m tall at its shoulder and weighed 816.4kg! To put that in perspective, most doorways are 2m tall, and 816kg is only a little bit less than the weight of a whole international rugby pack!

D: What do you think of the way the author has tried to help his/her readers to understand the size of the world's largest moose? Personal opinion.

E: Create a simple diagram which shows how the Rockies were formed. The diagram must illustrate one tectonic plate sliding beneath the American Plate, forcing it upwards and thereby forming the mountains.

2. The Andes

'Where are the Andes?' asks the old joke. 'On the end of your armies' is the joker's answer. But in reality, the Andes are found in South America, and run down the whole west coast of the continent. At around 7000km in length, they form the longest above-ground mountain range in the world. Quite an achievement, but then they began forming around 250 million years ago so have had long enough to grow!

Home to the ancient and long-lived empire of the Incas, many astounding archaeological treasures have been discovered in the Andes. Machu Picchu, an untouched Inca city, is one of the most famous historical sites in the world. Sitting right on the edge of the Andes just before they descend to the Amazon rainforest, the site went undiscovered during the Spanish invasion of Inca lands in the 16th century.

Did you know?

It was not Spanish armies which killed most Inca people during and after the invasion. Smallpox, a deadly disease which had never before been seen in South America, was carried over by the Spanish and the spread of the illness killed anywhere between 60% and 94% of the Inca population.

S: Explain the joke which begins the Andes section, and suggest why it might have been included. It is a play on the word 'Andes' which sounds like 'handies' (hands), which of course are found at the end of people's 'armies' (arms). Including humour in informational writing helps to keep readers engaged and provides a short break from reading facts.

S: [The Andes] form the longest above-ground mountain range in the world'. What does the specification of 'above-ground' suggest might exist or be mentioned later in the text? That there are mountains which exist either below the ground or (more likely) under the sea.

3. The Eastern Rift Mountains

The Great Eastern Rift is a gigantic land formation on the east coast of Africa. 22 – 25 million years ago, the African Plate (a huge tectonic plate) began to split in two. This splitting continues to the present day, with the new Somali Plate and Nubian Plate moving apart at a rate of 6 – 7mm per year. This movement has created deep valleys, towering mountains and enormous lakes. Mount Kilimanjaro (the tallest mountain in Africa) can be found on the edge of the Eastern Ridge Mountains.

Did you know?

The small African country of Rwanda lies right on the western branch of the ERM. Unsurprisingly, one of the country's nicknames is 'The Land of a Thousand Hills'!

E: What are the names of the two parts the African Plate is splitting into? The Somali Plate and the Nubian Plate.

E: What does the use of the word 'branch' tell you about the shape of this mountain range? The mountain range splits into (at least) two distinct lines/paths.

E: What is the main difference between the way the Great Eastern Rift is forming and the way the Rockies were formed? The Rockies were formed by two plates sliding together; the GER is being formed by two plates sliding apart.

4. The Himalayas

Striking an arc across South-Central Asia, the Himalayas are perhaps the most awe-inspiring range of mountains in the world. Nearly all of the fourteen 'eight-thousanders' (mountains with a height-above-sea-level of over 8000m) of the world are found in the Himalayas. The few which do not belong to the Himalayan range are found in its neighbour, the Karakoram Mountains.

Most famous of all the Himalayan peaks is Mount Everest. The summit of this sky-piercing mountain is the highest point anywhere on planet earth. To stand on the peak of Everest is to stand 8848m above sea level. To put that in perspective, if you stacked *ninety-two* Big Bens on top of each other, you would still need to pile two or three houses on top to get as high as Everest!

Did you know?

When Tenzing Norgay and Sir Edmund Hillary had completed the first ever ascent of Mount Everest in 1953, they reported that they had seen giant footprints on their way up the mountain. Had they discovered a yeti?

S: What do the inverted commas around 'eight-thousanders' tell you about that phrase? That it is an established nickname for mountains over 8000m in height.

D: Explain the effect of the author choosing 'sky-piercing' rather than the more common 'sky-scraping' as a description of Everest. The phrase exaggerates the height of Everest. 'Sky-scrapers' are known to be extremely tall structures. By describing Everest as 'sky-piercing' the author implies that where other very tall structures only touch the sky, Everest pierces straight through it to incomparable heights.

D: Read the first two paragraphs of the Himalayas section again. If you were asked to give an award to this mountain range, what would that award be? Award names must relate to the fact that the Himalayas are the tallest, highest or biggest mountain range in the world.

5. The Hawaiian-Emperor seamount chain

The final mountain range marked on the map is certainly the most unusual. Not only does it have an incredible name, it is also almost entirely underwater! This series of mountains stretches around 5800km underneath the Pacific Ocean, with only a few of its summits rising out of the water. Perhaps you know these dry-topped peaks by their common name: the Hawaiian Islands.

The sun-drenched, surfing-paradise islands of Hawaii are in fact the very tops of huge mountains which rise up from the sea bed. They are young mountains too! Formed by volcanoes breaking out from the ocean floor, these undersea mountains are still growing. 'Loihi' is the youngest in the range at only 400,000 years old and it continues to rise. At the moment its peak is about 975m below sea level, but in 10,000 – 100,000 years it should break the surface.

Did you know?

Mauna Kea is a mountain on the island of Hawaii. It measures 4207m above sea level, but measured from the ocean floor it is the tallest mountain in the world at a whopping 10,210m!

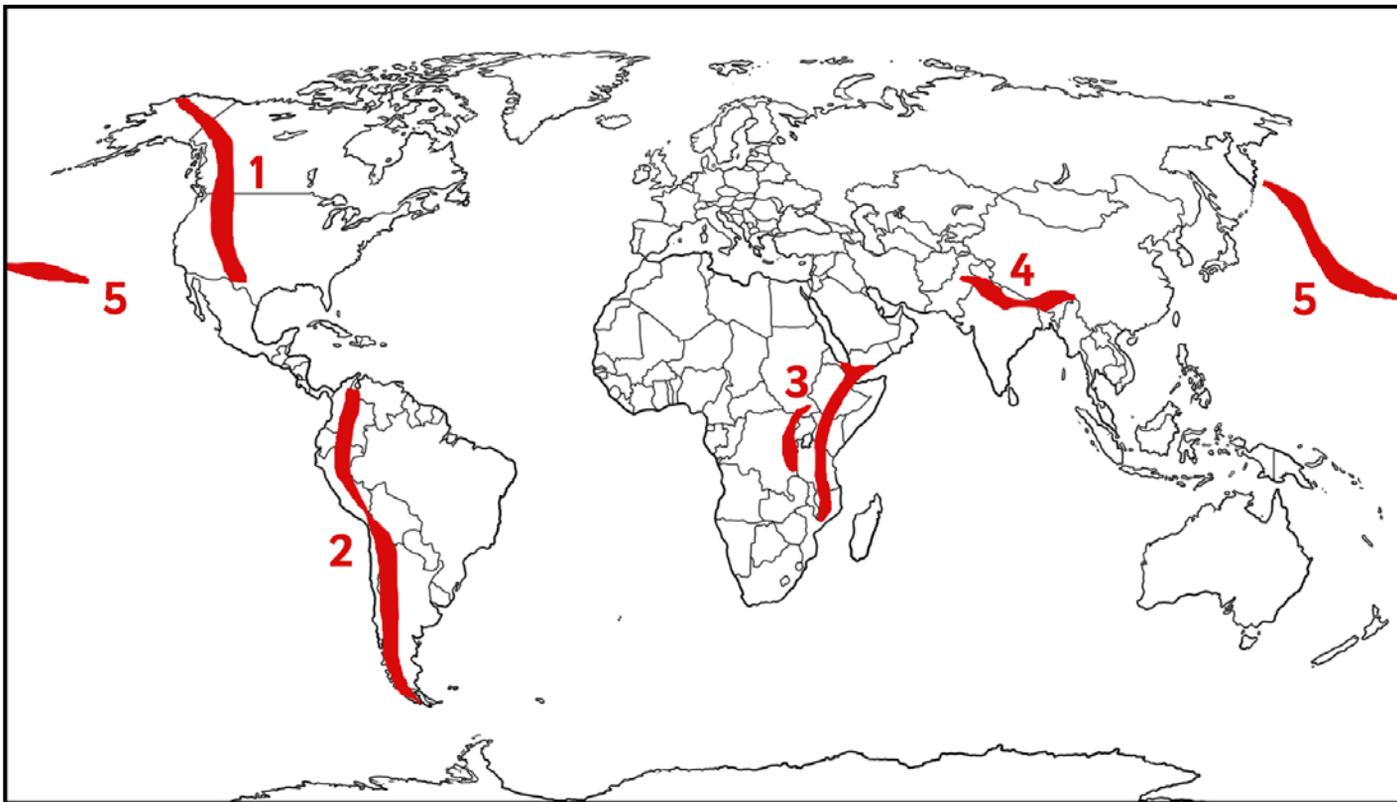
E: Which mountain range would you most like to visit? Find and explain the word/phrase/sentence which most influenced your choice. Personal choice; answers must be explained and use an example from the text.

D: Place the mountain ranges in order of age, oldest first, and leave out the entry which does not give you an age. Andes, Rockies, Eastern Rift Mountains, Hawaiian-Emperor seamount chain. The age of the Himalayas is not mentioned.

A Range of Ranges

Mountain ranges create some of the most spectacular scenery the earth has to offer. Breathtaking drops, sheer rock faces and snow-capped peaks are just some of the dramatic features of these spiny streaks on our planet's surface. They come in all sizes and each mountain range is unique in terms of the flora and fauna it supports, the views it offers and the stories it has created.

Several of the world's most famous or most interesting mountain ranges have been marked on the map below. The numbers correspond with the boxes which follow; select a mountain range and then read on to discover all sorts of fascinating facts about it!



1. The Rocky Mountains (the 'Rockies')

Stretching an impressive 4800km from Alaska through the west side of Canada and down into the mainland of the United States of America, the Rockies are one of the most well-known mountain ranges in the world. They were formed 80 – 55 million years ago during a large movement of tectonic plates. Tectonic plates are enormous sections of the earth's crust which move together and apart, causing earthquakes and forming huge valleys and mountains. The Rockies were formed when several tectonic plates to the west of North America slowly began to slide underneath the North American Plate. This movement forced huge pieces of rock upwards, forming the Rocky Mountains.

The Rockies are home to some of the most spectacular and rare wildlife on the planet. Herds of giant moose populate the northern sections of the range, alongside terrifying grizzly bears and wolves.

Did you know?

The largest moose ever recorded was found in Canada's Yukon territory, through which the Rockies run. The male moose stood an incredible 2.34m tall at its shoulder and weighed 816.4kg! To put that in perspective, most doorways are 2m tall, and 816kg is only a little bit less than the weight of a whole international rugby pack!

2. The Andes

'Where are the Andes?' asks the old joke. 'On the end of your armies' is the joker's answer. But in reality, the Andes are found in South America, and run down the whole west coast of the continent. At around 7000km in length, they form the longest above-ground mountain range in the world. Quite an achievement, but then they began forming around 250 million years ago so have had long enough to grow!

Home to the ancient and long-lived empire of the Incas, many astounding archaeological treasures have been discovered in the Andes. Machu Picchu, an untouched Inca city, is one of the most famous historical sites in the world. Sitting right on the edge of the Andes just before they descend to the Amazon rainforest, the site went undiscovered during the Spanish invasion of Inca lands in the 16th century.

Did you know?

It was not Spanish armies which killed most Inca people during and after the invasion. Smallpox, a deadly disease which had never before been seen in South America, was carried over by the Spanish and the spread of the illness killed anywhere between 60% and 94% of the Inca population.

3. The Eastern Rift Mountains

The Great Eastern Rift is a gigantic land formation on the east coast of Africa. 22 – 25 million years ago, the African Plate (a huge tectonic plate) began to split in two. This splitting continues to the present day, with the new Somali Plate and Nubian Plate moving apart at a rate of 6 – 7mm per year. This movement has created deep valleys, towering mountains and enormous lakes. Mount Kilimanjaro (the tallest mountain in Africa) can be found on the edge of the Eastern Ridge Mountains.

Did you know?

The small African country of Rwanda lies right on the western branch of the ERM. Unsurprisingly, one of the country's nicknames is 'The Land of a Thousand Hills'!

4. The Himalayas

Striking an arc across South-Central Asia, the Himalayas are perhaps the most awe-inspiring range of mountains in the world. Nearly all of the fourteen 'eight-thousanders' (mountains with a height-above-sea-level of over 8000m) of the world are found in the Himalayas. The few which do not belong to the Himalayan range are found in its neighbour, the Karakoram Mountains.

Most famous of all the Himalayan peaks is Mount Everest. The summit of this sky-piercing mountain is the highest point anywhere on planet earth. To stand on the peak of Everest is to stand 8848m above sea level. To put that in perspective, if you stacked *ninety-two* Big Bens on top of each other, you would still need to pile two or three houses on top to get as high as Everest!

Did you know?

When Tenzing Norgay and Sir Edmund Hillary had completed the first ever ascent of Mount Everest in 1953, they reported that they had seen giant footprints on their way up the mountain. Had they discovered a yeti?

5. The Hawaiian-Emperor seamount chain

The final mountain range marked on the map is certainly the most unusual. Not only does it have an incredible name, it is also almost entirely underwater! This series of mountains stretches around 5800km underneath the Pacific Ocean, with only a few of its summits rising out of the water. Perhaps you know these dry-topped peaks by their common name: the Hawaiian Islands.

The sun-drenched, surfing-paradise islands of Hawaii are in fact the very tops of huge mountains which rise up from the sea bed. They are young mountains too! Formed by volcanoes breaking out from the ocean floor, these undersea mountains are still growing. 'Loihi' is the youngest in the range at only 400,000 years old and it continues to rise. At the moment its peak is about 975m below sea level, but in 10,000 – 100,000 years it should break the surface.

Did you know?

Mauna Kea is a mountain on the island of Hawaii. It measures 4207m above sea level, but measured from the ocean floor it is the tallest mountain in the world at a whopping 10,210m!

A Range of Ranges

Section A

1. Give a synonym for the word 'correspond' in the last sentence of the introduction.
2. Create a simple diagram which shows how the Rockies were formed.
3. What are the names of the two parts the African Plate is splitting into?
4. What does the use of the word 'branch' tell you about the shape of the Eastern Rift Mountains?
5. What is the main difference between the way the Great Eastern Rift is forming and the way the Rockies were formed?
6. Which mountain range would you most like to visit? Find and explain the word/phrase/sentence which most influenced your choice.

Section B

7. What are the 'spiny streaks' on our planet's surface and why is this a good description?
8. Why do you think the author has chosen to mark the extent of each mountain range on the map?
9. What do you think of the way the author has tried to help his/her readers to understand the size of the world's largest moose?
10. Explain the effect of the author choosing 'sky-piercing' rather than the more common 'sky-scraping' as a description of Everest.
11. Read the first two paragraphs of the Himalayas section again. If you were asked to give an award to this mountain range, what would that award be?
12. Place the mountain ranges in order of age, oldest first, and leave out the entry which does not give you an age.

Section C

13. What is 'flora and fauna'?
14. Explain the joke which begins the Andes section, and suggest why it might have been included.
15. '[The Andes] form the longest above-ground mountain range in the world'. What does the specification of 'above-ground' suggest might exist or be mentioned later in the text?
16. What do the inverted commas around 'eight-thousanders' tell you about that phrase?

Section D

17. Explain and evaluate the effect of the pun used in the title.

Whole Class Guided Reading – Teaching Guide

- The text is for the children to read. Give each pair a copy of the text (without questions) to read individually or as a whole class. This text has been aimed at Year 5 (Wales)/Primary 6 (Scotland)/Grade 4 (Australia).
- The teacher should use the teacher version. It shows you where to pause after each section and provides questions for you to ask. The colours refer to our levels so that you can direct specific questions at specific students in terms of difficulty (their version does not have these colours to show them which is which).
 - Beginner – (Red)
 - Easy – (Blue)
 - Tricky – (Orange)
 - Expert – (Green)
- The children can record their answers to the questions at the end of the shared read/discussion or in a different session by using the comprehension sheet. The questions have been re-grouped into abilities so that you can assign sections to specific children.
 - Section A – Beginner
 - Section B – Easy
 - Section C – Tricky
 - Section D – Expert